

What is claimed is:

1. An actuator comprising:
a latching lever pivotable between at least a first position and a second position, said lever comprising a lever bearing surface;
a stationary bearing surface; and
a solenoid comprising a plunger moveable between an extended position and a retracted position, wherein when said lever is disposed in said first position and said plunger is in said extended position said plunger is disposed between said lever bearing surface and said stationary bearing surface thereby blocking said lever from pivoting to said second position, and when said plunger is in said retracted position said lever is not blocked from pivoting between said first position and said second position.
2. The actuator of claim 1 wherein at least one of said lever bearing surface and said stationary bearing surface comprises a roller.
3. The actuator of claim 1 wherein said lever is biased toward one of said first position and second position.
4. The actuator of claim 3 wherein said lever is biased toward said first position by a torsion spring.
5. The actuator of claim 1 wherein said plunger is biased toward one of said extended position and said retracted position when said solenoid is in an un-energized state.

6. The actuator of claim 5 wherein said plunger is biased toward said retracted position by a compression spring when said solenoid is in said un-energized state.

7. The actuator of claim 1 further comprising a mechanical switch that is closed when said lever is in one of said first position and said second position.

8. The actuator of claim 1 wherein said plunger is wedge shaped.

9. An actuator comprising:
a base plate;
a lever pivotally disposed on said base plate, said lever comprising a lever roller, and said lever being pivotable between a first position and a second position;
a stationary roller disposed on said base plate, said stationary roller proximate to said lever roller when said lever is in said first position;
a solenoid comprising a plunger moveable between an extended position and a retracted position, wherein said plunger is disposed between said lever roller and said stationary roller when said plunger is in said extended position and said lever is in said first position, thereby preventing said lever from pivoting to said second position.

10. The actuator according to claim 9 further comprising a torsion spring biasing said lever toward said first position.

11. The actuator according to claim 9 further comprising a compression spring biasing said plunger toward said retracted position when said solenoid is in an un-energized state.

12. The actuator according to claim 9 further comprising a mechanical switch that is closed when said lever is in said second position.

13. The actuator according to claim 9 wherein said plunger is wedge shaped.

14. A method of locking a detent bracket in an out of park position comprising providing an actuator comprising a latching lever comprising a lever bearing surface, said latching lever pivotable between at least a first position and a second position; a stationary bearing surface; and a solenoid comprising a plunger moveable between an extended position and a retracted position;

providing a detent bracket adjacent said latching lever, said detent bracket moveable between a park position when said latching lever is in said second position and an out of park position when said latching lever is in said first position;

positioning said detent bracket in said out of park position;

positioning said latching lever in said first position; and

extending said plunger between said lever bearing surface and said stationary bearing surface thereby blocking said lever from pivoting to said second position, thereby locking said detent bracket from moving to said out of park position.

15. The method according to claim 14 wherein at least one of said lever bearing surface and said stationary bearing surface comprises a roller.

16. The method according to claim 14 wherein said latching lever is biased toward said first position by a torsion spring.

17. The method according to claim 14 wherein said plunger is biased toward said retracted position by a compression spring when said solenoid is in an un-energized state.

18. The method according to claim 14 wherein said plunger is wedge shaped.

19. The method according to claim 16 wherein said detent bracket is in a leading position relative to said latching lever whereby said torsion spring caused said latching lever to follow said detent bracket when said detent bracket is moved from said park position to said out of park position.

20. The method according to claim 14 wherein extending said plunger comprises energizing said solenoid.

21. An electromechanical park pawl actuator comprising:
a motor;
a gear train driven by said motor; and

an output rack adapted to be driven by said gear train between at least a first and a second position;

wherein said output rack is coupled to a park pawl whereby said park pawl is in a park position when said output rack is in said first position and said park pawl is in an out of park position when said output rack is in said second position.

22. The actuator according to claim 21 further comprising an over center spring configured to bias said output rack toward a closer of the first position and the second position.